

Remarks/Arguments:

Claims 27-28, 33 and 35-37 are pending in the above-identified application. Claims 1-26, 29-32 and 34 are cancelled. Claim 33 has been withdrawn from consideration. New claims 36 and 37 have been added.

Claims 27 and 35 were rejected under 35 U.S.C. § 102 (b) as being unpatentable over Sorimachi et al. Claim 27 is amended to include,

...light-emitting means of irradiating an object with projected light having different radiation patterns...

... depth distance calculating means of **calculating depth distances of respective pixels** on the image **by using light intensity of the respective pixels**;

recording media for **recording the image correlated with the calculated depth distances of the respective pixels**...

... object extracting means of **extracting the object based on a depth distance of the pixel denoted by the user** on the displayed image, **by using the recorded depth distance**. (Emphasis Added).

Basis for these amendments may be found, for example, in the specification at paragraphs [0174], [0175] and [0266].

Applicants' exemplary embodiment includes a light source control part 5 which causes the light sources 2a and 2b to alternately emit different radiation patterns. (Para. [0172] and Figs. 2a and 2b). The depth distances of Y-coordinate values (pixels) corresponding to points of an image are calculated from the light intensity ratio of the pixels obtained using the two different radiation patterns. (Paras [0174], [0175] and Figs. 4-5). That is, the camera includes "...light-emitting means of irradiating an object with projected light having different radiation patterns..." and "...depth distance calculating means of **calculating depth distances of respective pixels** on the image **by using light intensity of the respective pixels**," as recited in claim 27.

As shown in Fig. 28, a distance image and a color image which have been picked up may be inputted into the a control part 537. Pixels of the image, which are denoted by the user, are also inputted into the control part 537. (Para. [0265]). A color image may be picked up and displayed on the display panel 518. An object, at which the user aims, may then be extracted

from **a plurality of the pixels** inputted by the touch panel 519 and a depth image may be displayed on the display panel 518 for recording in the recording media 504. (Para. [0266]). Thus, the camera also includes "...recording media for **recording the image correlated with the calculated depth distances of the respective pixels...**" and object extracting means of **extracting the object based on a depth distance of the pixel denoted by the user** on the displayed image, **by using the recorded depth distance,**" as recited in claim 27.

Sorimachi et al. includes a light source 5, a mask plate 3 that includes windows W1 and W2, lenses 1 and 2 and image sensor 4. (Fig.1). The light from light source 5 is split into two beams via windows W1 and W2. The light beams form optical images at positions F1 and F2 on the object 6 through the lens 1. The optical images F1 and F2 form optical images at positions D1 and D2 on the image sensor 4 through the lens 2. (Col. 4, lines 51-57). The distance distribution on the surface of the object 6 is then detected **as a density distribution of the optical images at positions D1 and D2** in the horizontal direction. That is, Sorimachi et al. only discloses the use of measured distances to obtain three-dimensional information about the object. Sorimachi et al. does not disclose or suggest "...**calculating depth distances of respective pixels** on the image **by using light intensity of the respective pixels...**" or "...extracting the object **based on a depth distance of the pixel** denoted by the user on the displayed image, **by using the recorded depth distance,**" as recited in claim 27. Thus, claim 27 is allowable over the art of record. Claim 35 depends from claim 1. Accordingly, claim 35 is also allowable over the art of record.

Claim 28 was rejected under 35 U.S.C. § 103 (a) as being unpatentable over Sorimachi et al., Katayama et al. and Takaha. Claim 28 is however, allowable, because it depends from an allowable claim.

Applicants have added new dependent claims 36 and 37 each dependent on amended claim 27. Basis for new claim 36 may be found for example, at paragraph [0260] and Figure 26. Basis for new claim 37 may be found for example, at paragraph [0172] and Fig. 2(a). No new matter has been added. Claim 36 includes patentable features in addition to the features of claim 27, namely,

...wherein the object extracting means, when the user denotes **a plurality of pixels**, extracts the object which exists **within the range of the greatest depth distance** of the depth distances of the pixels denoted by the user but

out of the range of the least depth distance of the depth distances of the pixels denoted by the user. (Emphasis added).

As shown in Fig. 26 of Applicants' exemplary embodiment, an image may include an object 525 in the form of a circular table. A user may input the coordinates (pixels) corresponding to the attention points 523, 524 and 526 of the image using the touch panel 518. The size of the object can be measured from the depth image without touching the object by designating the plurality of points 523, 524 and 526. For example, as shown at Fig. 26., the pixel 524 has the greatest depth distance and the pixel 526 has the least depth distance. The object 525 exists within the range of pixel 524 and out of the range of pixel 526. Thus, the object extracting means extracts object 525 "...which exists **within the range of the greatest depth distance** of the depth distances of the pixels denoted by the user but **out of the range of the least depth distance** of the depth distances of the pixels denoted by the user," as recited in new claim 36. The prior art does not disclose these features.

Claim 37 includes patentable features in addition to the features of claim 27, namely,

... each of the two fields having a **respective field time period** and each radiation pattern alternately emitting light for **each field time period**. (Emphasis added).

The light source control part 5 of Applicants' exemplary embodiment causes the light sources 2a and 2b to alternately emit light for each field period. (Page 17, lines 15-17). For example, light sources 2a and 2b may include flash light sources 7 and 8. (Fig. 2A). The depth distances of pixels on the image that is picked up may then be calculated based on two fields of the image, each field "...having a respective field time period and each radiation pattern alternately emitting light for each field time period," as recited in new claim 37.

In contrast, the light beams passing through W1 and W2 of Sorimachi et al. are emitted at the same time. Thus, Sorimachi et al. does not suggest "...each of the two fields having a **respective field time period** and each radiation pattern alternately emitting light for **each field time period**." Applicants' claimed features are advantageous because the light from light sources 2a and 2b may alternately emit light for each field period in synchronism with a vertical synchronizing signal of the camera 1.

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In view of the foregoing amendments and remarks, this Application is in condition for allowance which action is respectfully requested.

Respectfully submitted,



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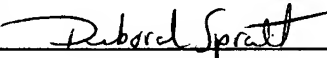
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